

# ***Base Pair: A High School Biomedical Mentorship Program***

**Base Pair** (<http://basepair.library.umc.edu>), a biomedical research mentorship program, trains public high school students as effective "Communicators of Science" to lay persons, cultivates career awareness in such students, and advances inquiry-based science curricula within secondary school districts. Faculty mentors from the University of Mississippi Medical Center (UMC) are paired with students for a full semester of "hands-on", graduate level biomedical research. In preparation, students complete a graduation credit-accruing high school course, *Biomedical Research*. Mentors subsequently host students in active research in their laboratories. Teacher professional development and science curriculum enhancement activities complement student participation to create a highly coordinated impetus for communication of biomedical science ethical concerns, techniques, and philosophies. Success in communicating science is highlighted by the fact that over 32 high school students have co-authored scientific abstracts/publications or presented their research experiences in professional scientific forums, while over a dozen teachers have accomplished similar professional goals. Implementation of an advanced preparatory course, and application of the philosophy of mentorship that is fundamental to all academic researchers, is an eminently "portable" concept that can be adopted wherever professional scientific research is active (colleges, universities, corporate research, government). **Base Pair** offers a readily reproducible model of mentorship, information technology, biomedical research, and curriculum development for improving science literacy among the American public.

**Sponsors: The University of Mississippi Medical Center,  
The Howard Hughes Medical Institute and  
The Jackson Public School District**

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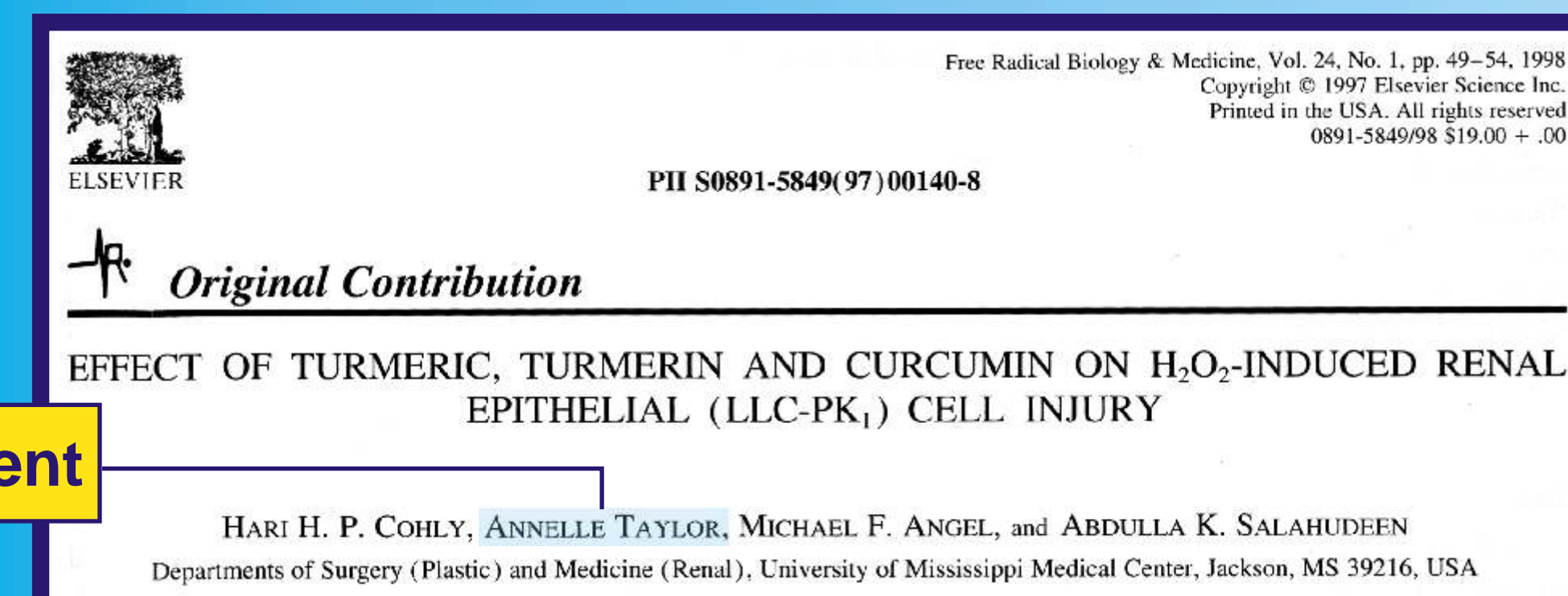
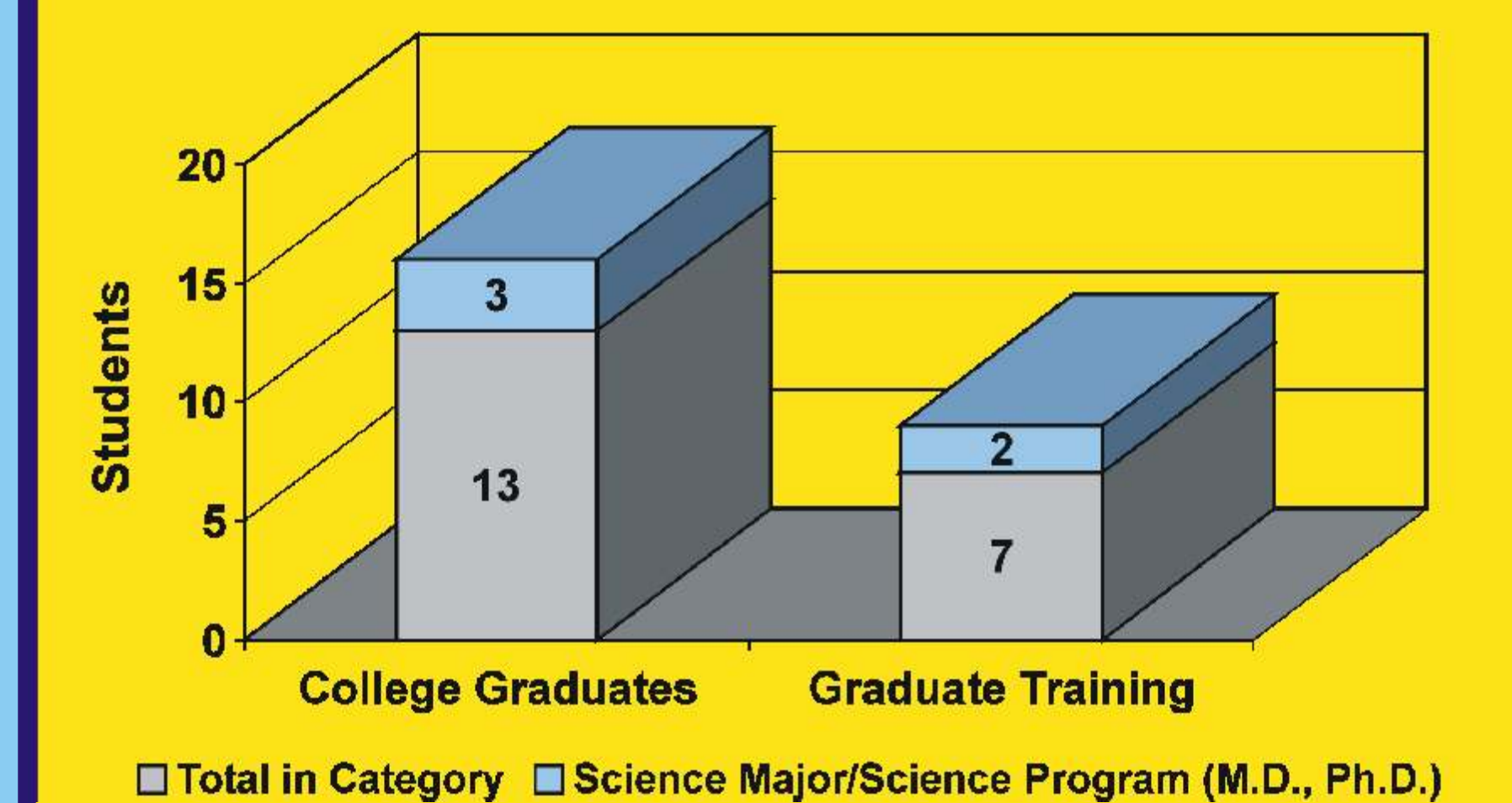
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## Higher Education Progression



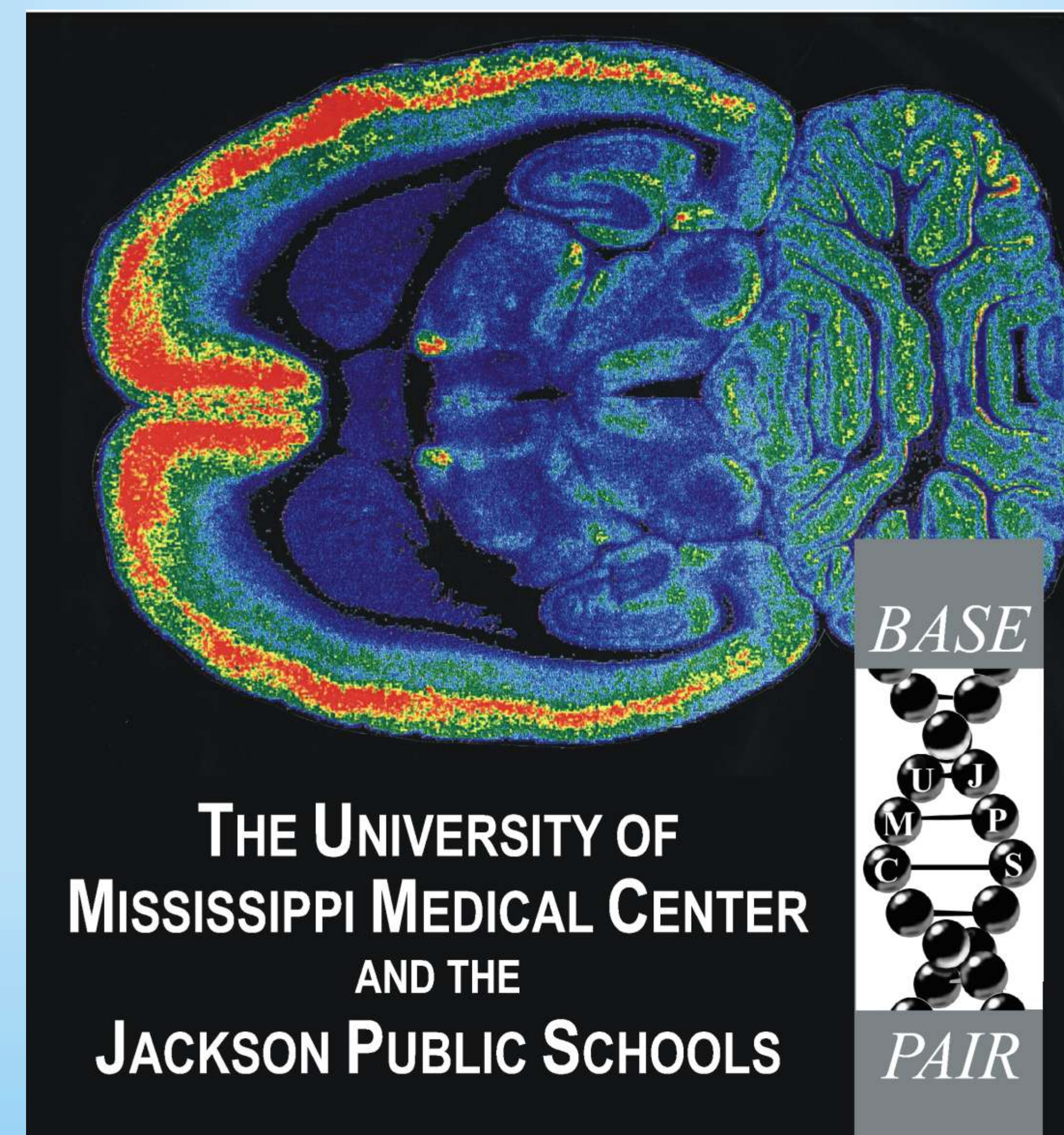
## Base Pair student

## BASE PAIR TOOLKIT

- Partnership between UMC and largest public school district in Mississippi
- Coordinated, tripartite structure
  - Student research mentorship
  - Summer teacher professional development
  - Science curriculum development
- Creation of academic preparatory course, *Biomedical Research*, for students
  - Orientation towards research skills
  - Information research
  - Contemporary techniques
  - Presentation skills
- Outcomes = professional science credentialing (presentations/citations)

## RESEARCH & EVALUATION

- Initiated in 1992 by leadership coalition from Medical Center, School Board and District Superintendent
- 88 students (as of 01/2002)
  - 51% African-American, and 60% female
  - 100% have continued to an undergraduate experience
  - 43 graduates = science majors
    - 10 in M.D., M.D./Ph.D. training
  - 36 student co-authored presentations, abstracts, papers
- 83% of teacher-initiated grant applications funded.
- Success dependent upon 3C's
  - Commitment
  - Cooperation
  - Communication



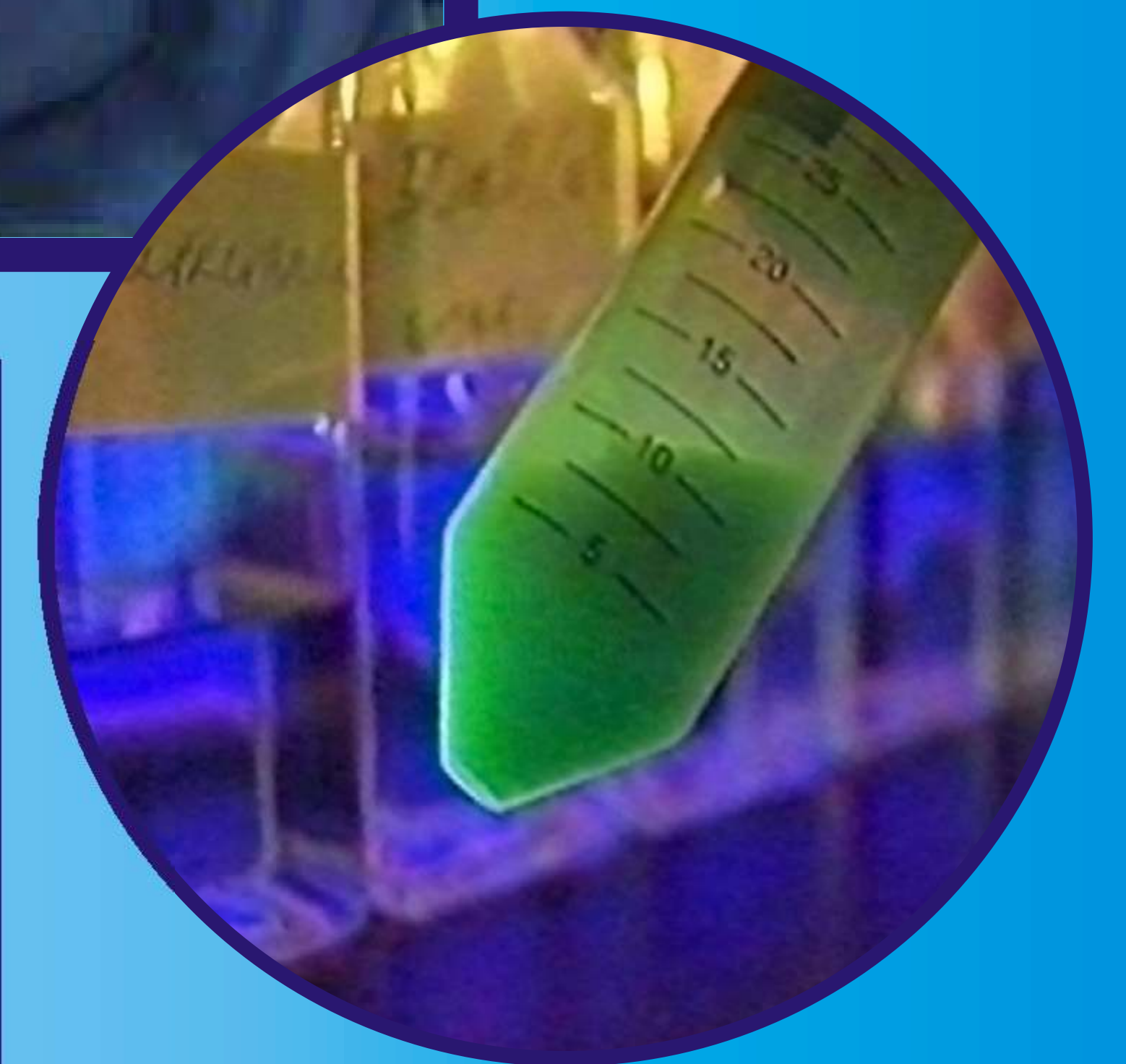
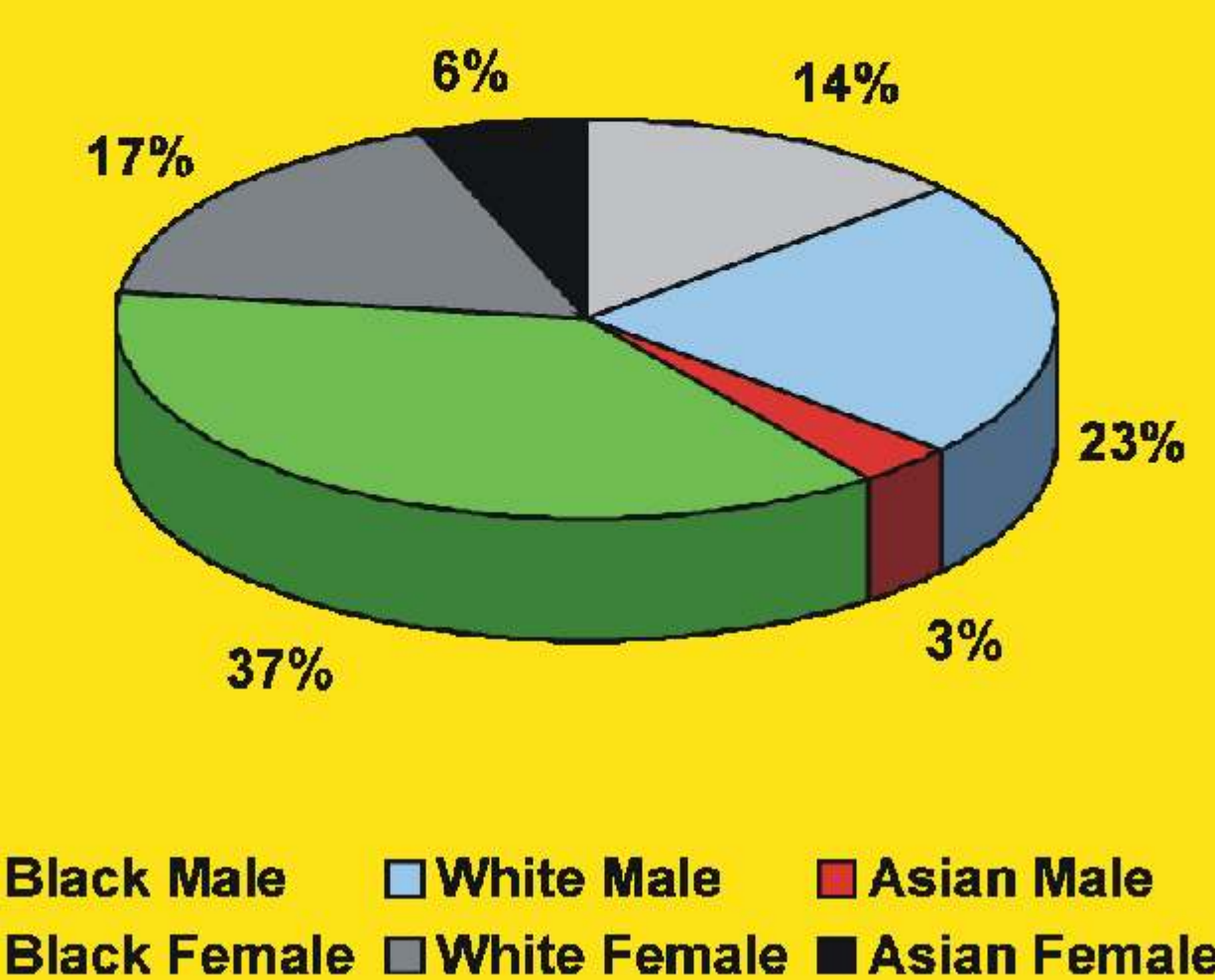
“As for the future,  
your task is not to foresee, but to enable it.”

## Antoine de Saint-Exupery

### The Wisdom of the Sands



## Demographics



# PAIR